

AUGOCHLORA POMONIELLA Cockerell

Female: Ben Bow Club, Humboldt County, April 19, 1935 (Van Duzee).

AGAPOSTEMON CALIFORNICUS Crawford

Female: Eureka, Humboldt County, April 17, 1935, on Salmon Berry (Van Duzee).

THE SAWFLY GENUS *EMPRIA* IN NORTH AMERICA

(Hymenoptera, Tenthredinidæ)

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The genus *Empria* is one of the sawfly groups which apparently has no reliable external characters for classifying the species. A study of the saws and male genitalia, however, has disclosed remarkable differences which afford a stable basis for separating the forms of the nearctic species.

In the past over seventy nearctic species have been placed in the genus. Of these three, *cavata* MacGillivray, *cetaria* MacGillivray, and *columna* MacGillivray, belong to the genus *Ametastegia*. The remainder have been condensed to seven, including one new to science. They were originally based on slight differences in color, sculpture of head, shape of sheath, proportions of antennæ, and sundry other characters. Most of the species were based on one or a few specimens. During the spring of 1930 Dr. T. H. Frison and myself obtained several hundred specimens of two species, *maculata* and *obscurata*, from several localities in Illinois. These series showed that almost every external difference previously used was subject to considerable variation and that the only reliable ones were the characters of the internal genitalia. This conclusion has been substantiated by a study of more than 600 specimens from almost all parts of North America. I have examined the genitalia of every type involved in this paper except those of *multicolor* (Norton), *superba* (Prov.), and *hullensis* (Prov.).

When the Eurasian species of *Empria* are studied on the basis of these characters, a few of the names used in this paper

may have to be changed. At present, however, determination of Eurasian species is too arbitrary to be relied upon.

Empria Lepeletier

KEY TO NEARCTIC SPECIES

1. Males (apical sternite not incised).....2
- ... Females (apical sternites divided by a sheath).....7
2. Mesopleuræ with a large yellow mark.....*multicolor*
- ... Mesopleuræ black3
3. Apex of penis valve produced into a long slender filament, fig. 15*improba*
- ... Apex of penis valve without a long slender filament, figs. 11-144
4. Penis valve without a single, conspicuous tooth or tooth-like process at or near apex, fig. 16.....*coryli*
- ... Penis valve with a conspicuous tooth, figs. 12, 13, or a tooth-like process, fig. 14, at or near apex.....5
5. Apex of penis valve curled over and hood-like, forming a tooth-like process, fig. 14.....*maculata*
- ... Apex of penis valve not curled over; with a tooth on the dorsal side below apex, figs. 12-13.....6
6. Tooth of penis valve short as in fig. 12.....*obscurata*
- ... Tooth of penis valve long as in fig. 13.....*ignota*
7. Mesopleuræ with a light area or stripe.....8
- ... Mesopleuræ black9
8. Clypeus deeply incised, fig. 9, and yellow.....*multicolor*
- ... Clypeus only slightly incised and black.....*coryli*
9. Lancet of saw with large, sharp lobes on apical portion and with no well differentiated lobes on basal portion, fig. 1*maculata*
- ... Lancet with lobes forming a regular series increasing in size from apex to base, fig. 2.....10
10. Lobes of lancet, fig. 8, with basal portion long and rounded, and separated from the small apical teeth by a small depression*improba*
- ... Lobes of lancet, fig. 6, with basal portion not distinctly set off from apical portion11
11. Basal lobes of lancet, fig. 6, with base large and globular, with few apical teeth.....*ignota*
- ... Basal lobes of lancet with base smaller, fig. 5, sometimes scarcely produced, fig. 3.....12
12. Segments of lancet separated by rows of small setæ, fig. 2*obscurata*
- ... Segments of lancet not separated by rows of small setæ, fig. 3*nordica*

Subgenus EMPRIA Lepeletier

Synonyms: *Pæcilostoma* Dahlbom, *Pæcilosoma* Thomson, *Pæcilstomidea* Ashmead, *Tetratneura* Ashmead, *Triempria* Enslin.

Six species are placed in this subgenus, which is characterized by the totally black orbits, and a median keel on the clypeus.

EMPRIA OBSCURATA (Cresson)

Selandria obscurata Cresson, Trans. Am. Ent. Soc., vol. 8, Jan., 1880, p. 15, male, female.

Pæcilosoma punctulata Weldon, Can. Ent., vol. 39, Sept. 16, 1907, p. 304, male, female. *New syn.*

Empria affinis female, *Empria caudelli* female, *Empria arizonensis* female, Rohwer, Can. Ent., vol. 42, May 7, 1910, pp. 173-174. *New syn.*

Empria cava female, *Empria cauduca* female, MacGillivray, Can. Ent., vol. 43, Sept. 6, 1911, pp. 306-309. *New syn.*

Empria capillata female, *Empria condita* female, *Empria contorta* female, *Empria conferta* female, *Empria concreta* female, *Empria conciliata* female, *Empria concisa* female, MacGillivray, Can. Ent., vol. 43, Oct. 4, 1911, pp. 341-346. *New syn.*

Empria costata MacGillivray, Can. Ent., vol. 46, Mar. 13, 1914, p. 103, female. *New syn.*

Empria fragariæ Rohwer, Jl. Econ. Ent., vol. 7, Dec., 1914, p. 479. *New syn.*

Empria cista female, *Empria cistula* female, MacGillivray, Univ. Ill. Bull., vol. 20, no. 50, Aug. 13, 1923, p. 16. *New syn.*

Distribution. Alta., Ariz., B. C., Calif., Colo., Conn., Ia., Ida., Ill., Ind., Man., Mass., Mont., N. J., Northwest Terr., N. Y., Ore., Sask., Wash.,

EMPRIA IGNOTA (Norton)

Selandria ignotus Norton, Trans. Am. Ent. Soc., vol. 1, 1867, p. 257, female.

Monostegia kincaidii MacGillivray, Can. Ent., vol. 25, Oct. 5, 1893, p. 239, female. *New syn.*

Empria calda female, *Empria cata* male, *Empria castigata* female, *Empria casca* male, *Empria evecta* female, MacGillivray, Can. Ent., vol. 43, Sept. 6, 1911, pp. 307-310. *New syn.*

Empria confirmata female, *Empria concitata* male, *Empria culpata* female, MacGillivray, Can. Ent., vol. 43, Oct. 4, 1911, pp. 341-343. *New syn.*

Empria cerina MacGillivray, Psyche, vol. 28, April, 1921, p. 34, male, female. *New syn.*

Empria cirrha female, *Empria cithara* female, MacGillivray, Univ. Ill. Bull., vol. 20, no. 50, Aug. 13, 1923, p. 16, 17. *New syn.*

Distribution. Alta., B. C., Conn., Man., Mass., Mich., N. B., N. J., N. H., N. Y., Ont., Ore., Pa., Que., Sask., Wash.

Empria nordica new species

Indistinguishable externally from specimens of *ignota* and *obscurata* in which the sheath is curled and narrowed at apex. Differs in structure of saw as explained in key.

Female. Length 5.5 mm. Color black, with paired opalescent areas on abdominal tergites 2-6, the extreme apical margin of the abdominal segments white and the following parts whitish or straw-colored: postero-lateral margin of pronotum, tegulae, labrum, indefinite area at apex of femora, front and middle tibiae except apex, and extreme base of hind tibiae; remainder of tibiae and tarsi varying shades of brown. Wings barely infuscated, venation brown.

Structure. Typical of subgenus. Clypeus, fig. 10, moderately incised, with a median keel produced beyond apex to form a small tooth. Antennae short and stout. Ridges of head rounded and dull with shagreening. Thorax shining. Tarsal claws with a minute inner tooth near middle.

Sheath long and tapering to a narrow, rounded apex, clothed with sparse setae. Cerci short, one-fourth length of sheath. Saw with 17 discernible segments in the lance, 16 in the lancet. Lance with sutures straight at apex, becoming curved towards base. Lancet, fig. 3, with ducts wide and shallow, their anterior margin sinuate; segments at base of saw set off by fine creases, those at apex only by the ventral lobes; ventral lobes long and scarcely raised, divided into 6-10 fine teeth, which decrease in number towards the base of the saw.

Holotype. Female; Aweme, Manitoba, Canada, June 1, 1912, Norman Criddle. In the collection of the Illinois State Natural History Survey.

Paratype. Female; Hay River, Northwest Territory, Canada, May 16, 1927, R. H. Bedford. Deposited in the Canadian National Museum.

EMPRIA IMPROBA (Cresson)

Emphytus improbus Cresson, Trans. Am. Ent. Soc., vol. 8, Jan., 1880, p. 11, female.

Empria salicis Rohwer, Can. Ent., vol. 42, May 7, 1910, p. 174, male, female. *New syn.*

Empria contexta MacGillivray, Can. Ent., vol. 43, Oct. 4, 1911, p. 345, female. *New syn.*

Distribution. Alta., B. C., Colo., Man., Me.

EMPRIA CORYLI (Dyar)

Harpiphorus maculatus var. *coryli* Dyar, Jl. N. Y. Ent. Soc., vol. 5, Dec., 1897, p. 194.

Empria mellipes Rohwer, Can. Ent., vol. 42, May 7, 1910, p. 175, female. *New syn.*

Empria caetrata MacGillivray, Can. Ent., vol. 43, Sept. 6, 1911, p. 305, female. *New syn.*

The lancet of the saw, not mentioned in the key, has the ventral lobes raised and pointed basally and bearing no teeth, fig. 4. The segments are separated by a single row of short spines, directed basally; these rows run completely across the lancet on the basal segments but diminish apically until at the apex they form a narrow brush just above the ventral margin.

Distribution. Ill., Mo., N. Y., Wis.

EMPRIA MACULATA (Norton)

Emphytus maculatus Norton, Proc. Bost. Soc. Nat. Hist., vol. 8, 1861, p. 157, male, female.

Pæcilostoma convexa MacGillivray, Can. Ent., vol. 41, Nov. 1, 1909, p. 402, female. *New syn.*

Empria distincta female, *Empria submaculata* female, *Empria melanostoma* male, female, Rohwer, Can. Ent., vol. 42, May 7, 1910, pp. 173-175. *New syn.*

Monosoma maura Rohwer, Proc. U. S. Natl. Mus., vol. 38, June 6, 1910, p. 204, female. *New syn.*

Empria callosa female, *Empria celsa* female, *Empria callida* female, *Empria caprina*, male, female, *Empria casta* female, *Empria celebrata* female, *Empria captiosa* female, *Empria cæca* female, *Empria cariosa* female, *Empria candidula* female, *Empria canora* female, *Empria cauta* female, MacGillivray, Can. Ent., vol. 43, Sept. 6, 1911, pp. 305-311. *New syn.*

Empria condensa female, *Empria cumulata* female, *Empria curata* female, *Empria cuneata* female, *Empria cupida* female, MacGillivray, Can. Ent., vol. 43, Oct. 4, 1911, pp. 342-346. *New syn.*

Empria schwarzi Rohwer, Proc. U. S. Natl. Mus., vol. 41, Oct. 14, 1911, p. 398, female. *New syn.*

Empria cadurca MacGillivray, Can. Ent., vol. 55, July 6, 1923, p. 158, male, female. *New syn.*

Distribution. Alaska, B. C., Calif., Conn., D. C., Ia., Ill., Ind., L. I., Maine, Man., Mass., Md., Minn., Mont., N. B., N. C., N. H., N. J., N. Y., Ohio, Ont., Ore., Pa., Que., R. I., Tex., Va., W. Va., Wis.

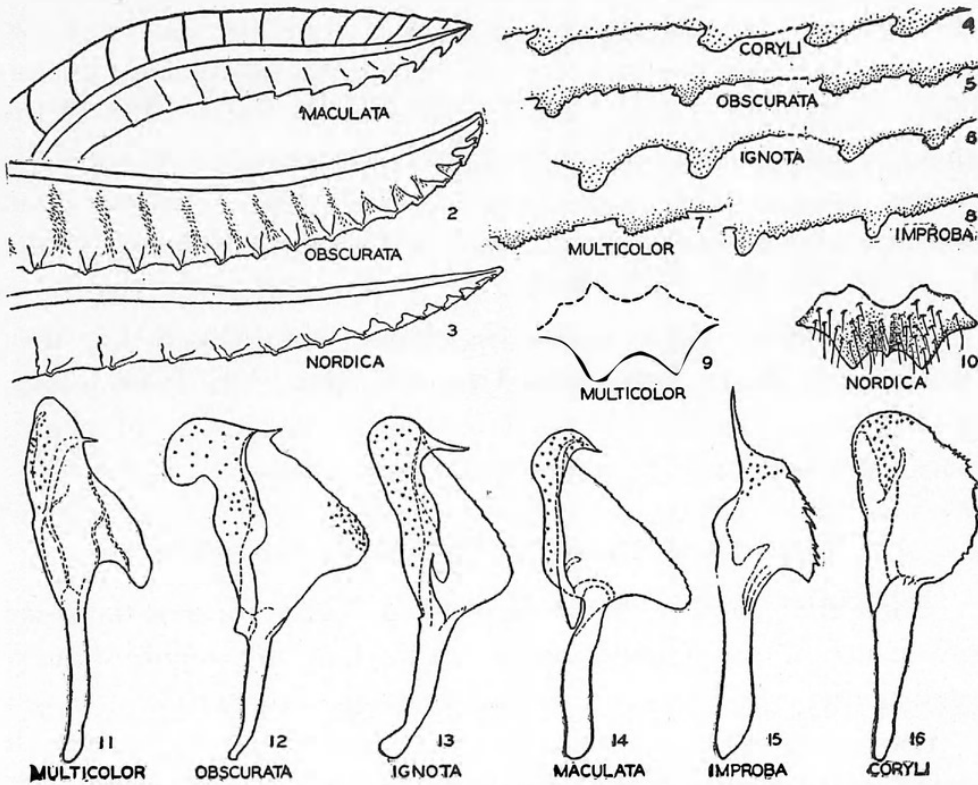


Plate I. Parts of *Empria*. Figs. 1-8, Saws and their parts. Figs. 9-10, Clypei. Figs. 11-16, Penis valves.

Subgenus PARATAXONUS MacGillivray

New synonym: *Leuceempria* Enslin.

Contains only a single nearctic species, characterized by the yellow inner orbits, and the long flat clypeus.

EMPRIA MULTICOLOR (Norton)

Strongylogaster multicolor Norton, Proc. Bost. Soc. Nat. Hist., vol. 9, 1862, p. 120, male, female.

Emphytus hullensis Provancher, Add. et Correc. au vol. II, Faune Ent. du Can., Dec., 1885, p. 25, male. *New syn.*

Eriocampa superba Provancher, Add. et Correc. au vol. II, Faune Ent. du Can., July, 1888, p. 351, female. *New syn.*

Empria carbacea MacGillivray, Can. Ent., vol. 43, Oct. 4, 1911, p. 341, female. *New syn.*

Aphilodyctium maculatum Rohwer, Proc. U. S. Natl. Mus., vol. 41, Oct. 14, 1911, p. 408, female. *New syn.*

Aphilodyctium multicolor erythrogastrum Rohwer, Proc. U. S. Natl. Mus., vol. 41, Oct. 14, 1911, male, female. *New syn.*

This species varies considerably in color; the ground color of the abdomen ranges from yellowish rufous to dark brown, the legs may be entirely pale yellow or have the apices of the femora black or blackish and the posterior orbits may be entirely yellow or mostly black. The penis valve, fig. 11, is slender, with a small subapical tooth. The saw has 30 segments in the lance and 24 in the lancet, a much higher number than in *Empria s. st.* The ventral lobes of the lancet have no definite basal process but are studded with 14-20 small teeth, fig. 7.

Distribution. Alta., Calif., Ga., Mass., Md., Me., N. C., Nev., N. H., N. J., N. Y., Ohio, Ont., Ore., Pa., Que., Va., Wash., Wis., W. Va.

ANOTHER DESTRUCTIVE DEATH WATCH BEETLE

Some time ago Mr. Roy Campbell of Alhambra sent me some specimens of an anobid beetle which had thoroughly honey-combed the woodwork of an old Spanish bureau. I soon ran it down to *Thaptor oblongus* Gorh. but not being satisfied with Gorham's description sent specimens to my good friend, Dr. Blair of the British Museum. He pronounced my material identical with the type even stating that the type had the elytra definitely punctate which was contrary to Gorham's statement.

Thaptor Gorh. is, however, a synonym of *Eupactus* Lec. Champion's efforts to validate *Thaptor* at a later date, by restricting it to a limited number of species including *oblongus*, seems to me rather a poor effort, seeing that these species only differ from the others in minor regards. *Colymmaderus* Solier which has priority over both names, was based upon a Chilean species which has antennal characters, as shown by his detailed illustration, that are not at all congeneric with them. The species should, therefore, be known as *Eupactus (Thaptor) oblongus* (Gorh.).

The beetle is undoubtedly very destructive to woodwork in Mexico and would no doubt prove equally destructive along our southern border of it should ever become established there.—Edwin C. Van Dyke.



Ross, Herbert H. 1936. "The sawfly genus *Empria* in North America (Hymenoptera, Tenthredinidae)." *The Pan-Pacific entomologist* 12, 172–178.

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